

**Notice of Allowability**

Application No.

10/768,507

Examiner

John J. Figueroa

Applicant(s)

MAIER ET AL.

Art Unit

1796

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment After Final.
2. ☒ The allowed claim(s) is/are 1,2,6, 8-13 and 16.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |  |
|--|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application                                |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                               | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____ |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                              |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material         | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance             |
|  | 9. <input type="checkbox"/> Other _____  |

### EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Richard Hoffmann on October 31, 2007. The claims of the instant application have been amended to remove the term "preferably"; to limit Y and X to "SO<sub>2</sub>"; and to limit G and Z to halogen. Accordingly, upon limiting the claims to these species, claims 7, 14, 15 and 22-27 have been canceled as duplicative of prior claims.

**Please amend the claims as follows without prejudice:**

**Claim 1.** In lines 9-10, replace "Y represents - O -, - S -, - CO -, - SO<sub>2</sub> -, -C(CH<sub>3</sub>)<sub>2</sub> -, - C(CF<sub>3</sub>)<sub>2</sub> -, diphenyl methylene, diphenyl silicon, or fluorenyl," with --- Y represents -SO<sub>2</sub> -, ---.

In line 11, replace "end groups Z represent a halogen (F, Cl, Br, I), -NO<sub>2</sub> - or - OH," with --- end groups Z represent a halogen (F, Cl, Br, I), ---.

In line 14, replace "m being preferably between 5 and 200," with --- m being between 5 and 200, ---.

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In line 15, replace "with the bridges Y between sequential aromatic rings when m > 1 being the same or" with --- with the bridges Y between sequential aromatic rings being the same or ---.

**Claim 6.** In lines 5-7, replace "X represents - O -, - S -, - CO -, - SO<sub>2</sub> -, -C(CH<sub>3</sub>)<sub>2</sub> -, - C(CF<sub>3</sub>)<sub>2</sub> -, diphenyl methylene, diphenyl silicon, fluorenyl or a bond directly to the next aromatic ring," with --- X represents - SO<sub>2</sub> -, ---.

In line 8, replace "the end groups G represent a halogen (F, Cl, Br, I), -NO<sub>2</sub> - or - OH," with --- end groups G represents a halogen (F, Cl, Br, I), ---.

In line 10, replace "segment forming a hydrophobic block preferably lying in the range from 5 to 200," with ---segment forming a hydrophobic block in the range from 5 to 200, ---.

Please cancel **claim 7**.

**Claim 13.** In lines 9-10, replace "X represents - O -, - S -, - CO -, - SO<sub>2</sub> -, -C(CH<sub>3</sub>)<sub>2</sub> -, - C(CF<sub>3</sub>)<sub>2</sub> -, diphenyl methylene, diphenyl silicon, or fluorenyl" with --- X represents - SO<sub>2</sub> -, ---.

In line 11, replace "the end groups G represents a halogen (F, Cl, Br, I), -NO<sub>2</sub> - or - OH," with --- end groups G represents a halogen (F, Cl, Br, I), ---.

In line 13, replace "segment forming a hydrophobic block preferably lying in the range from 5 to 200," with --- segment forming a hydrophobic block in the range from 5 to 200, ---.

Please cancel claims 14 and 15.

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**Claim 16.** In lines 5-6, replace "Y represents - O -, - S -, - CO -, - SO<sub>2</sub> -, -C(CH<sub>3</sub>)<sub>2</sub> -, - C(CF<sub>3</sub>)<sub>2</sub> -, diphenyl methylene, diphenyl silicon, fluorenyl or a bond directly to the next aromatic ring," with --- Y represents -SO<sub>2</sub> -, ---.

In line 7, replace "end groups Z represents a halogen (F, Cl, Br, I), -NO<sub>2</sub> - or - OH," with --- end groups Z represents a halogen (F, Cl, Br, I), ---.

In line 10, replace "m being preferably between 5 and 200," with --- m being between 5 and 200, ---.

In line 11, replace "with the bridges Y between sequential aromatic rings when m > 1 being the same or" with --- with the bridges Y between sequential aromatic rings being the same or ---.

**Please cancel claims 22-27.**

### **REASONS FOR ALLOWANCE**

2. The following is an examiner's statement of reasons for allowance: the prior art does not teach or suggest a product comprising a block copolymer having at least two segments, wherein at least one segment has the repeating sequential polysulfone-halogenated phenyl subunit of the chemical formula depicted in claim 1, claim 6, claim 13 or claim 16, and wherein said subunit is found sequentially repeated at least five times in their respective block copolymer segments.

The closest prior art are U.S. Patent Application Publication 2002/0091225 A1 to McGrath et al. (hereinafter 'McGrath'); USPN 5,180,750 to Sugaya et al. (hereinafter 'Sugaya'); and WO 01/19896 A1 to Wilson et al. (hereinafter 'Wilson'). McGrath

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discloses a compound having a single unit of the formula recited in claim 1 but not a block copolymer having a segment with at least five sequential polysulfone-halogenated phenyl subunits. Sugaya discloses aromatic polysulfone block copolymers but the aromatic rings are not halogen-substituted. Wilson discloses polysulfone aromatic block copolymers but these block copolymers do not contain the five sequential repeating units as required in the instant claims.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John J. Figueroa whose telephone number is (571) 272-8916. The examiner can normally be reached on Monday-Thursday 8:00-6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DAVID J. BUTTNER  
JJF/RAG PRIMARY EXAMINER

